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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,339	03/01/2004	David W. Sherrer	R&H 04-02CIP	9391
7590 05/18/2005				
JONATHAN D. BASKIN EDWARDS & ANGELL, LLP P. O. BOX 55874 BOSTON, MA 02205			EXAMINER HO, TU TU V	
			ART UNIT 2818	PAPER NUMBER

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/790,339

Applicant(s)

SHERRER, DAVID W.

Examiner

Tu-Tu Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Oath/Declaration

1. The oath/declaration filed on 03/01/2004 is acceptable.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-36 of U.S. Patent No. 6,698,295 (the '295 patent).

Although the conflicting claims are not identical, they are not patentably distinct from each other. Claims 1-20 of the present invention is a similar version of the claimed invention in claims 1-36 of the above-identified U.S. Patent with similar intended scope.

With respect to claims 10, 19, and 20, although the claims of the '295 patent does not disclose silicon carbide as a material for the dielectric layer, the use of silicon carbide for the

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dielectric layer was known at the time the invention was made. The difference in materials between the claims of the '295 patent and the present claims is silicon nitride and silicon carbide. Busta et al. U.S. Patent 6,140,646, in also disclosing a microstructure including micro-cantilever 245 (Fig. 1) comprising a dielectric layer 228 and conductive layer 234/240, disclose that the dielectric layer 228 could be silicon nitride or silicon carbide (column 4, lines 28-31), thereby teaching that the two materials are art equivalents. Therefore, it would have been obvious to one of ordinary skill in the art the time the invention was made to form the dielectric layer of the present claims using silicon carbide rather than silicon nitride, because the two materials are art equivalents.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 11-12 and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by

Busta et al. U.S. Patent 6,140,646 (the '646 reference).

The '646 reference discloses in the figures, particularly Fig. 1, and respective portions of the specification a micromachined apparatus as claimed.

Referring to **claim 11**, the reference discloses a micromachined apparatus comprising:

a substrate (200); and

a released microstructure (245) disposed on the substrate, comprising:
a dielectric layer (228, column 4, lines 15-31)), and
a conductive layer (234) attached to the dielectric layer, wherein the conductive layer has a thickness less than $1/5$ the dielectric layer thickness (column 7, lines 32-39, thickness of the dielectric layer 228 is about 2500 to 10000 angstroms, and column 8, lines 1-10, the thickness for the conductive layer 234 is about 400 angstroms).

Referring to **claims 17, 19, and 20**, and using the same reference characters and citations as detailed above, the reference discloses a micromachined apparatus comprising:

a substrate; and
a released cantilever disposed on the substrate, comprising:
a silicon carbide dielectric layer, and
a conductive layer attached to the dielectric layer, wherein the conductive layer has a thickness less than $1/5$ the dielectric layer thickness.

Referring to **claim 12**, as can be seen from Fig. 1, the conductive layer (234) contacts and covers the dielectric layer (228).

Referring to **claim 18**, the reference further discloses that the microstructure comprises a switch (column 3, lines 43-64).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (571) 272-1778. The examiner can normally be reached on 6:30 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu-Tu Ho
May 14, 2005